

## **PLAY FOUR POKER**

### **CROSS-REFERENCE TO RELATED APPLICATIONS**

This application is a continuation in part of application serial number 10/100359 filed on March 18, 2002 identifying James Thomas Kenny and Larry E. Kekempanos as co-inventors, which is in turn filed in connection with and claiming the benefit of US Provisional Application No. 60/277,018 filed on March 19, 2001 and U.S. Provisional No. 60/314,503 filed on August 23, 2001 identifying James Thomas Kenny and Larry E. Kekempanos as co-inventors.

### **BACKGROUND OF THE INVENTION**

The present invention relates to gaming and to card games. More particularly, the present invention pertains to a method of playing a new type of poker game especially adapted for casino gaming, both in live table and electronic video formats.

Gaming establishments continually require new games to offer their players. Casinos are also in need of games which are easy to play and easy to deal. Such games are generally required to enable each player to play against a banker (who usually also acts a dealer) provided by a casino, rather than against other players. This type of Casino Poker can provide more revenue to the casino than traditional poker because Casino Poker is invariably structured to give the casino an advantage. Exemplary of Casino Poker are the casino games of "Caribbean Stud Poker", "Let It Ride", and "Three Card Poker". These type games require less space than the traditionally larger tables found in poker rooms and are dealt much faster.

In games like Caribbean Stud and Let It Ride, the five card poker hands that the player must make to get a larger payoff are hard to get thus the larger payoffs are infrequent. The player is frustrated because many times they will get four cards to a straight or a flush but not have a good hand. In a three-card game like Three Card Poker, the higher hands are made more easily but therefore the payouts are comparatively low. Therefore, there is a need for a game, which would bridge the gap in ease of making a hand with higher payouts to the player.

In addition, as will be more apparent from the following specification, and as was more fully delineated in our provisional application filed August 23, 2001, it has been determined that the player interest is increased when the odds of the player being able to achieve a winning hand are increased. This, of course, must be balanced against the player/dealer/casino having good odds in winning as well. It is clear that with five card poker games, the odds of achieving a good hand are more difficult than in a lesser number card game. As has been indicated above, in a three-card poker game, the ability to achieve a good hand is enhanced and therefore the payoffs

are less. The present invention seeks to provide a card game, which now focus's on a four-card poker game and as will be demonstrated hereinafter, improves the odds for the player to win, while still maintaining good odds for the casino as well. It will also be appreciated that the over all odds for a player winning in a four card game are easier than the odds for a player to win any five card poker game.

Insofar as the prior art is concerned, the art is particularly void of any disclosures or showings of a four card poker game. Similar games are disclosed, but they relate to either a three card game, or a five card game. Furthermore, some of the games disclosed in the prior art are played with in excess of 52 cards and hence, have a different basis for play and a different statistical odds for the player being able to achieve a winning hand. For example, the patent to Goldman, patent no. 5,997,002 discloses a poker style casino card game which uses a 52 card standard playing deck plus an additional five jokers for a total of 57 cards. Play consists of dealing 5 cards to each player, and in the preferred embodiment, are dealt face down. The game is played by the dealer revealing a first card, and a player revealing a first card, then deciding on additional wagers. The sequence of the game terminates when all five cards are displayed, assuming each player has stayed in the game, comparing the best five card hand of the dealer against each players five cards. Goldman also reveals that jokers which are part of the deck are never wild and hence, a player receiving a joker ends up in a poor position since one of the five cards cannot count towards the making of a poker hand. Goldman fails to reveal any capability to make a four card flush or straight.

Another prior art patent discloses a poker game which indicates a game for either a three card or five card poker hand. The patent to Webb no. 5,685,774 discloses a card game which may be played in either a three card variation, or a five card variation. While the patent mentions a four card version of the game, in the four card version each player will receive a wild card which the player may place with the four card hand in order to make a five card poker hand. Hence, the wagering system is dependent upon a five card hand or a three card hand, and is not dependent on the best hand with four cards. Again, Webb fails to disclose a four card capability to make a four card flush or straight.

The patent to Scott no. 6,102,402 describes still another variation of a poker game which is played as a five card face down game. The players five card hand is compared to the dealers five card hand to determine the wagering outcome. Once again, Scott fails to disclose or appreciate a four card poker game.

## **OBJECTS AND ADVANTAGES OF THE INVENTION**

It is an object of the present invention to provide an enjoyable new card game.

It is a further object of the present invention to provide a game that is easy to learn and deal.

It is a further object of the present invention to provide a game that makes it easier for a player to make a hand than in a five-card game, and hence enhances the odds of the player being able to win a four-card game versus a five-card game.

It is a further object of the present invention to provide a game that has higher payoffs than a three-card poker game since the odds are harder in any four-card game than they are in a three-card game at least for the top hands, but nevertheless still maintains the player interest due to enhanced ability to obtain a winning hand versus a five-card poker game.

## **SUMMARY OF THE INVENTION**

The present invention discloses a poker game variation in which one or more players play against the casino. Broadly, the invention is directed to a poker game variant in which a player has a choice between several wagers among the following; a wager against a dealer, a wager against a pre-determined payscale, a bad beat wager, or a progressive wager.

In one preferred embodiment of the invention, one or more players initially place a wager(s) and then five cards are dealt to the player and five cards are dealt to the dealer. Players would inspect their hands and decide whether to fold or to continue to play. If the player was playing a wager against the dealer and wanted to continue to play, they would place another wager in support of their first wager in the appropriate betting area. The dealer would inspect his/her hand to see if they qualified. If the dealer did not qualify with a pre-determined rank of cards, the dealer would pay the first wager of the player and return the supporting wager. If the dealer had a qualifying hand, then the player and the dealer would compare their best four-card hand to determine the winner. Tie hands would be a push. If the player had also made a wager against the dealer and had supported that wager, and the player's outranks the dealer, they would be eligible for a payoff for achieving a winning hand. If the player had also made any wagers against achieving a pre-determined rank, and achieves such a rank, the player would win that wager accordingly.

In a second embodiment of the invention, one or more players initially place bets and then five cards are dealt to the player and six cards are dealt to the dealer. Players would inspect their hands and decide whether to fold or to continue to play. If the player was playing a wager against the dealer and wanted to continue to play, they would place another wager in support of

their first wager in the appropriate betting area. In games against the dealer, the player would play their best four-cards out of five and compare that to the dealer's best four cards out of six to determine the winner. Tie hands would be a push. In this version the dealer would not have to have a qualifying hand to continue play. If the player had made any optional wagers against achieving a pre-determined rank, the dealer would pay or take the wagers accordingly.

In a third embodiment of the invention, one or more players initially place bets and then four cards are dealt to the player and four cards are dealt to the dealer. Players would inspect their hands and decide whether to fold or to continue to play. If the player was playing a wager against the dealer and wanted to continue to play, they would place another wager in support of their first wager in the appropriate betting area. In games against the dealer, the player would play their four cards against the four cards of the dealer. The dealer would have to achieve a qualifying hand to continue play against the player. If the player had made any bets against achieving a pre-determined rank, the dealer would pay or take the bets accordingly.

It is contemplated that in the game of the present invention, for the game to begin, either the player or the dealer must have at least a minimum hand ranking for the game to proceed. The casino or house may vary the rules by requiring the dealer to have a qualifying hand, if he doesn't, he loses the initial bet to the player, or on the other hand, if the house requires that the player must have a qualifying hand, and the player fails to achieve a qualifying hand, he loses his initial bet. The game may, of course, be played without requiring any of the participants to have a qualifying hand in order for the game to commence

A novel gaming layout for use in the casino version of the game is also disclosed.

There has thus been outlined, rather broadly, the more important features of the invention in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are of course, additional features of the invention that will be described hereafter and which will form the subject matter of the claims appended hereto. In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting. As such, those skilled in the art will appreciate that the conception, upon which this disclosure is based, may readily be utilized as a basis for the designing of other structures, methods, and systems for carrying out the several purposes of the present invention. It is

important, therefore, that the claims be regarded as including such equivalent construction insofar as they do not depart from the spirit and scope of the present invention.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

**FIG. 1** shows a playing surface for use in playing a card game of one embodiment of the present invention;

**FIG. 2** is a chart indicating winning poker hands and their payouts in one example of a wager against a predetermined payscale of the present invention;

**FIG. 3** is a chart indicating winning poker hands and their payout in another variation of a wager against a predetermined payscale of the present invention;

**FIG. 4** is a chart indicating the winning hands and their payouts for the Ante Reward of one embodiment of the present invention;

**FIG. 5** illustrates one player area of the playing surface shown in FIG. 1;

**FIG. 6** is a chart indicating payoffs for the Ante and Play wagers;

**FIG. 7** is a chart indicating payoffs for the bad beat hand as one variation;

**FIG. 8** is a chart indicating payoffs for a bad beat hand as to an alternate variation.

### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

According to a preferred embodiment of the present invention, players play against a casino. However, in jurisdictions where such games are not legal, such as in California, one player may be designated "Player-Dealer" and all the other players would play against the Player-Dealer. The option to act as Player-Dealer would be offered to each player in turn. In this specification, the term "Dealer" is intended to refer to either a casino dealer, or a Player-Dealer, whichever is appropriate for the circumstances under which the game of the present invention is played.

**FIG. 1** shows a playing surface or table layout 25 on which one embodiment of the present invention may be played. The layout 25 may be marked or placed on any suitable surface such as a gaming table. For example, the layout may be in the form of a layout cloth supported on a supporting surface. The layout provides a playing area 30 for a plurality of players, for example seven players, and a separate area 35 for a banker who also preferably acts as the dealer. Each playing area 30 has a number of marked sections or zones 12, 14, 16 for the placing of various wagers by a player as will be described hereinafter.

Each player takes a place at one of the playing areas 30. The game is played in a number of rounds as will be described. In each round, each player has the option of playing against the

dealer, or wagering on the rank of his/her hand or playing a combination of these two options. In other variations of the game a player may have additional betting options. The presently preferred embodiment of the present invention is played with a standard deck of 52 playing cards, each deck having 13 cards in each of four suits.

At the commencement of the game each player decides whether to play the particular round by wagering against the dealer, i.e. an "ANTE" wager, by wagering on the value of his/her hand, i.e. a "Pair of Jacks or Better" wager, or both. To play against the dealer a player makes an Ante wager by placing an appropriate wager, such as a token or chip, or where permitted, cash, on the section 14 of his/her playing area 30. The gaming chips may be of any conventional kind and available in a number of denominations such as are well known within the art. If the player wishes (alternatively or in addition) to make a wager based on the value of his/her hand, the player places an appropriate token or chip on "Pair of Jacks or Better" in section 12 of his/her playing area 30. In the present example, the rules of the game provide that payouts will be made according to a displayed payout schedule with "Pair of Jacks or Better" payouts starting at a pair of jacks or better. In one embodiment of the present invention, hands are preferably ranked according to the following hierarchy, though other rankings may be used:

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Highest:

Royal Flush:           AKQJ in the same suit (suit has no rank)

Four of a Kind: Four of one rank

AAAA highest

KKKK next highest ranking four of a kind, and so on until

2222 lowest ranking four of a kind

Straight Flush: Four of one suit in sequence

AKQJ highest ranking straight flush

KQJ10 next highest ranking straight flush, and so on until

4,3,2,A lowest ranking straight flush

Flush               Four of one suit

AKQ10 highest ranking

AKQ9 next highest ranking, and so one, until

532A lowest ranking straight

Straight           Four in sequence

AKQ10 highest ranking

AKQ9 next highest ranking, and so on until

4,3,2,A lowest ranking straight

**Three of a Kind:** Three of one rank

AAA highest

KKK next highest rank, and so on until

222 lowest ranking three of a kind

**Two Pair:** Two different, two of same rank

AAKK highest-ranking two pair

AAQQ next highest ranking two pair, and so on until

3322 lowest ranking pair

**One Pair:** Two of one rank

AAKQ highest

AAKJ next highest ranking pair, and so on until

4322 lowest ranking pair

**High Card:** (A hand comprising none of the above)

AKQ10 highest

AKQ9 next highest ranking high card, and so on until

6432 lowest ranking high card

Ace is high, but can be low in 4-3-2-A Sequence.

The payout schedule may be varied in accordance with the rules of the game and/or the casino. For example, another version of the game may eliminate the royal flush hand and have the following rankings:

Four of a Kind

Straight Flush

Three of a Kind

Flush

Straight (A-2-3-4 is the lowest straight)

Two Pair

One Pair

### High Card

One of the wagering options in one embodiment of the present invention is a “Pair of Jacks or Better”. An example of one preferred payout schedule for that wager is as follows:

#### PAIR OF JACKS OR BETTER PAYS

PAIR OF JACKS OR BETTER.....	1 TO 1
TWO PAIR.....	2 TO 1
THREE OF A KIND.....	3 TO 1
STRAIGHT.....	4 TO 1
FLUSH.....	4 TO 1
STRAIGHT FLUSH.....	25 TO 1
FOUR OF A KIND.....	75 TO 1
ROYAL FLUSH.....	200 TO 1

Another of the wagering options in a second embodiment of the present invention is a “Pair of Queens or Better”. An example of one preferred payout schedule for that wagers is as follows:

#### PAIR OF QUEENS OR BETTER PAYS

PAIR OF QUEENS OR BETTER.....	1 TO 1
TWO PAIR.....	2 TO 1
THREE OF A KIND.....	4 TO 1
STRAIGHT.....	4 TO 1
FLUSH.....	4 TO 1
STRAIGHT FLUSH.....	40 TO 1
FOUR OF A KIND.....	100 TO 1
ROYAL FLUSH.....	250 TO 1

The payout schedules are preferably displayed in a convenient manner and location. At times the payscales for different wagers and any extra reward payouts will be displayed on the playing layout itself and at other times the payouts will be on mobile display material.

According to a preferred embodiment of the present invention, the two wagering options are independent, so that a player may wager unequal amounts on the ANTE and PAIR OF JACKS OR BETTER options.

When the above wagers are in place, the dealer preferably shuffles the cards (manually or otherwise) and then deals a five-card hand to each player and him/herself.

The cards may initially be dealt to the players face up or face down depending upon casino policy.

When the cards have been dealt, any player who has placed an ANTE wager inspects his/her hand and determines whether he/she wishes either to fold and forfeit the ANTE wager, or to continue. If the player wishes to continue, according to this illustrated embodiment, the player must place a PLAY wager, which may be of proportionate value to and is preferably the same as the ANTE wager. The PLAY wager is made by placing an appropriate chip on the section 16 marked "PLAY" on the player's playing area 30. When the player has made the wager then he/she places the cards in the PLAY area below the PLAY wager section 30.

If a player forfeits his/her ANTE wager, the dealer takes the wager and the player's cards are discarded before the game proceeds.

"PAIR OF JACKS OR BETTER" wagers are not affected to this point. However, a player playing "PAIR OF JACKS OR BETTER" only, places his/her cards in the playing area if they wish to continue the hand. If the player wishes to forfeit or fold their hand they would indicate such by tossing their hand towards the dealer. If the player is also playing against the dealer with an ANTE wager, he/she must make a PLAY wager if he/she has a winning PAIR OF JACKS OR BETTER wager.

The dealer reveals his/her cards and arranges the cards to show the best four-card poker hand. The dealer then in turn reveals each other player's cards (if they are not already visible), compares the player's best four card poker hand to that of the dealer, and resolves each player's best four card poker hand to that of the dealer, and resolves each player's wager(s).

All players with ANTE and PLAY wagers are automatically winners if the dealer does not have a KING/QUEEN high hand or better. This rank may be varied in accordance with the rules of the game or of the casino. Players are preferably paid even money on the ANTE wager and their PLAY wager is returned.

If the dealer has a KING/QUEEN high hand or better, each player's hand is compared with that of the dealer. If the player's hand is higher, the player is paid even money on both the ANTE and PLAY wagers. If the player's hand is lower, the player loses his/her ANTE and PLAY wagers. If the dealer and player have exactly the same hand, then the hand is a push and the player may either withdraw his/her wager, leave it, or adjust it for the next round.

The present game may also provide for an additional payout to be made by the dealer, to the player who is in play against the dealer i.e. who has made an ANTE and PLAY wager, if the player achieves a hand listed on an additional pay-out schedule. As was previously indicated, additional wagers may be provided for in the present game and in this connection, there would be

provided a payout schedule indicating a certain ranking of winning hands and a payout amount should the player achieve such a hand. The ranks to which such extra ANTE REWARD payouts are made may be predetermined by the rules of the game and/or the casino. The payouts would preferably be based on the ANTE wager amount. These payouts are independent of the results of the game against the dealer. One preferred payoff schedule is as follows:

#### ANTE REWARD PAYS

STRAIGHT FLUSH.....	3 TO 1
FOUR OF A KIND.....	8 TO 1
ROYA STRIGHT FLUSH.....	20 TO 1

Players who have wagered on the value of the hand (i.e. PAIR of JACKS or BETTER) win if the hand is at least a pair of jacks and are paid by the dealer according to the posted payscale. These payouts are independent of the results of the game against the dealer.

This procedure completes a single round of the game. Play then continues in another round, with players commencing by making ANTE and/or PAIR of JACKS or BETTER wagers.

The novel methods of the present invention may be played utilizing playing cards or as an electrical or electro-mechanical device such as a slot machine. Those skilled in the art will appreciate that suitable controls can be provided for receiving the necessary input and therefore will not be described in detail herein. While the game may be played on a single slot machine, it is within the scope of the present invention to provide a multi-unit video format wherein a plurality of players may play against each other and/or against a dealer.

From the present description, those skilled in the art will appreciate that various modifications may be made without departure from the scope of the present invention. For example, the naming of the different wagers, the naming and/or ranking of any hand, the changing of the necessity of qualifying hands for both the dealer and/or the player, the payout schedules, and predetermined winning or losing ranks may be varied in accordance with the rules of the game or the requirements of the casino. The table game layout may be varied from what is described and shown. The rules may be varied, or additional rules imposed, within the scope of the invention. Additional optional bets may be incorporated into the game with a view toward enhancing the players interest and ability to win additional wagers. One such additional optional bet may be termed a "BAD BEAT SIDE BET". As indicated previously, once the player has placed a first ANTE wager against the dealer and supported that with a third support wager know as a PLAY wager, the player may optionally place a wager on a "BAD BEAT SIDE BET" which wagers against another pre-determined payout schedule. In such an instance, the player is wagering that the player can achieve a hand which appears on the payout schedule even if the

player's hand is ultimately outranked by the dealer's hand. For example, if the player has 2 pair or better and is outranked by the dealer, the player would receive a bad beat bonus according to the payout schedule which for example may take the following format:

Bad Beat Hand.....	Paid (to 1)
4 of a Kind.....	10,000
Straight Flush.....	2,000
Flush.....	250
Straight.....	100
Three of a Kind.....	25
Two Pair.....	25

Hence, even if the dealer has a hand which outranks the player such that the player would lose both the ANTE bet and the PLAY bet, the player may be able to win the side bonus bad beat bet if his hand still appears on the pre-determined payout schedule.

The player would lose the optional bet in the event that his hand does not appear on the payout schedule and/or the player folds his hand and ceases playing.

It will be appreciated that additional marked zones may be provided to accommodate the optional additional and/or side bets. The marking of the betting zone would be noted accordingly so that the player would know where to position his chips in order to place a side bet.

It will therefore be appreciated that the precise wagering requirements may vary depending upon the casino rules, the nature of the game will remain the same, that is, a four card poker game wherein only four cards are used determining a winner or loser. The precise wagering system can be varied in that any number of additional and optional side bets may be incorporated into the game, or indeed, additional forced bets may be incorporated by the house rules. Surely, the wagering systems may vary dramatically without changing the nature of the card game described and claimed herein. Hence, the precise method of wagering is not deemed to be a critical part of the present invention rather, the criticality of the present invention resides in the playing of a four card poker game.

The importance of the present invention resides in the fact that by producing and developing a four card poker game, the game is enhancing the odds of the player in the possibility of obtaining a winning hand. From a mathematical stand point, following below is a detailed format showing the odds of a player being able to win a four card poker game versus a five card game.

**Five Card Stud Compared to Play Four Poker**

HAND	Odds to 1 of making	2,598,960 combinations	(Column 1 ÷) (Column 2 )
	<u>Column 1</u> <u>5 – Card Poker</u>	<u>Column 2</u> <u>Play Four Poker</u>	<u>Easier to Make</u>
Royal Flush	649,740	13,535	48
Straight Flush	72,193	1,382	52
Four of a Kind	4,165	4,165	same
Full House	694	0	(No Full House)
Flush	508.8	22.6	22.5
Straight	254.8	25.5	9.9
Three of a Kind	47	44.3	1.06
Two Pair	21	21	same

## Mathematical Analysis

There are 2,598,960 ways to deal five cards to the player from a deck of 52 cards and 1,533,939 ways to deal five cards to the dealer from the remaining 47-card deck. Thus there are  $2,598,960 \times 1,533,939 = 3,986,846,103,440$  ways to deal a game.

A computer program was written to deal all unique player-dealer hand combinations. An arbitrary dealer qualifying hand was predetermined. The player and dealer hands were then compared and the results were noted down. The house advantage was then calculated from the saved results. The dealer qualifying hand was then adjusted until an ideal house advantage could be attained. It turned out that a dealer qualifying hand of KQ-high would yield a house advantage of 3.219%. The hand distributions for both the player and dealer are shown below:

**Player and dealer final hand distributions (%)**

Final Hand	Probability
Royal Flush	0.0074
Four of a Kind	0.0240
Straight Flush	0.0723
Flush	4.4101
Straight	3.9173
Three of a Kind	2.2569
Two Pair	4.7539
One Pair	40.3066
KQ-high	21.4978
Nothing	22.7537

It can be seen from the above that the dealer should qualify 77.2463% of the time. The player will fold 29.1943% of the time, thus averaging 1.7081 bets per hand. The house advantage is 3.2190% per initial wager or 1.8846% per total wager.

The optimal strategy is to only play any hand better than A-10-6-3-2 with 113 exceptions as shown in the Appendix.

It should be noted that although a three-of-a-kind occurs less often than a flush and a straight, it is still ranked lower than a flush and a straight in Play Four Poker so that the players who are familiar with the traditional poker ranking won't get confused.

## B nus Bet

**Payout Schedule 1**

Final Hand	Probability in %	Pays (to 1)	Return %
Royal Flush	0.007388	200	1.4775
Four of a Kind	0.024010	75	1.8007
Straight Flush	0.072337	25	1.8084
Flush	4.410072	4	17.6403
Straight	3.917259	4	15.6690
Three of a Kind	2.256903	3	6.7707
Two Pair	4.753902	2	9.5078
Pair Jacks or Better	12.438380	1	12.4384
Total	27.880229		67.1128

The house advantage is  $100\% - 27.8802\% - 67.1128\% = 5.0069\%$ .  
About once every 3.6 hands the player will win the bet.

**Payout Schedule 2**

Final Hand	Probability in %	Pays (to 1)	Return %
Royal Flush	0.007388	250	1.8469
Four of a Kind	0.024010	100	2.4010
Straight Flush	0.072337	40	2.8935
Flush	4.410072	4	17.6403
Straight	3.917259	4	15.6690
Three of a Kind	2.256903	4	9.0276
Two Pair	4.753902	2	9.5078
Pair Queens or Better	9.346662	1	9.3467
Total	24.788531		68.3327

The house advantage is  $100\% - 24.7885\% - 68.3327\% = 6.8788\%$ .  
About once every 4 hands the player will win the bet.

**Payout Schedule 3**

Final Hand	Probability	Pays (to 1)	Return %
Royal Flush	0.007388	1000	7.388
Four of a kind	0.02401	250	6.0024
Straight Flush	0.072337	100	7.2337
Flush	4.410072	5	22.0504
Straight	3.917259	5	19.5863
Three of a Kind	2.256903	5	11.2845
Total	10.687969		73.5453

The house advantage is  $100\% - 10.6880\% - 73.8225\% = 15.4896\%$ . About 1 in 9.4 hands the player will win the bet.

## Bad Beat Sld Bet

The computer analysis indicated that the player would be bad beat by the dealer as follows:

Player Hand	Dealer Hand	Probability (%)
Four of a Kind	Royal Flush	0.00000171
Four of a Kind	Four of a Kind	0.00000370
Straight Flush	Royal Flush	0.00000668
Straight Flush	Four of a Kind	0.00001674
Straight Flush	Straight Flush	0.00002831
Flush	Royal Flush	0.00035505
Flush	Four of a Kind	0.00102545
Flush	Straight Flush	0.00347447
Flush	Flush	0.10496533
Straight	Royal Flush	0.00031685
Straight	Four of a Kind	0.00089614
Straight	Straight Flush	0.00286725
Straight	Flush	0.17225544
Straight	Straight	0.07533523
Three of a Kind	Royal Flush	0.00016402
Three of a Kind	Four of a Kind	0.00063670
Three of a Kind	Straight Flush	0.00160643
Three of a Kind	Flush	0.09813261
Three of a Kind	Straight	0.08657776
Three of a Kind	Three of a Kind	0.02804452
Two Pair	Royal Flush	0.00034807
Two Pair	Four of a Kind	0.00133263
Two Pair	Straight Flush	0.00340865
Two Pair	Flush	0.20802501
Two Pair	Straight	0.18413489
Two Pair	Three of a Kind	0.11487296
Two Pair	Two Pair	0.11707336

### A Summary of Bad Beat Hands

Bad Beat Hand	Probability %	Odds Against	Pays	Return %
Four of a Kind	0.00000541	18483392:1	10000	0.0541
Straight Flush	0.00005174	1932888:1	2000	0.1035
Flush	0.10982030	910:1	250	27.4551
Straight	0.25167090	396:1	100	25.1671
Three of a Kind	0.21516203	464:1	75	16.1372
Two Pair	0.62919555	158:1	25	15.7299
Total	1.20590593	82:1		84.6468

Approximately once every 83 hands the player will be bad beat.  
The house advantage is  $100\% - 84.6468\% - 1.2059\% = 14.1473\%$ .

A computer simulation of 800 million hands was run to verify the accuracy of the analysis.

**Summary of House Advantages**

Primary Bet	3.2190% (1.8846% per total wager)
Bonus Bet (1)	5.0089%
Bonus Bet (2)	6.8788%
Bad Beat Side Bet	14.1473%

The mathematical analysis for five card poker games, as well as three card poker games are known in the art. It will be appreciated, therefore, that by comparing a players odds of winning a four card game against a five card game shows that the player odds of winning are enhanced by a significant margin. In the same light, the players odds of winning in a four card game are more difficult than any three card game, and in this manner, higher payouts are justified in a four card game, over a three card game. However, in view of the fact that the players odds of winning a four card game are enhanced, there is greater interest in such a game and will therefore entice more players to play a four card game than a five card game.

While there has been described what is considered to be a preferred embodiment of the invention, it will be understood that various modifications may be made therein and it is intended to cover in the intended claims all such obvious modifications and variations.